

REMARKS

Prior to entry of this paper, Claims 1-18 were pending. Claims 1-18 were rejected. In this paper Claims 1, 2, 10, 11, and 18 have been amended; Claims 19-20 have been added; and no Claims have been cancelled. Accordingly, Claims 1-20 are currently pending. No new matter is added by way of this amendment.

Allowed Claims (3, 4, 8, 12, 14 and 16-17)

Claims 3, 4, 8, 12, 14, 16 and 17 were identified as being allowable if rewritten in independent form. The applicants' representative wishes to thank the Examiner for indicating that these claims contain patentable subject matter. Although the applicants' representative agrees with the Examiner's conclusion, Claims 3, 4, 8, 12, 14, 16, and 17 may be patentable for reasons other than those cited by the Examiner. Further, the applicants' representative respectfully submits that amended independent Claims 1, 10, and 18 are patentable for at least any one of the following reasons. For at least this reason, it is respectfully submitted that Claims 1-20 are in condition for allowance.

Claims 1, 2, 5, 6, 10, 11 and 13

Claims 1, 2, 5, 6, 10, 11 and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,441,684 to Nakamura ("Nakamura"). Each of these rejections is respectfully traversed.

Amended independent Claim 1 is respectfully submitted to be allowable at least because Nakamura fails to disclose "wherein the digital gain of the Digital Programmable Gain Amplifier at least overlaps the analog gain of the Programmable Gain Amplifier for each step along a range of the analog signal," as somewhat similarly recited in Claim 2. (Emphasis added).

Nakamura, by contrast, discloses a digital gain that is independent of the range of an analog gain. More specifically, Figure 9 of Nakamura shows a PGA GAIN and a DPGA GAIN, both of which have separate ranges. According to Nakamura, the PGA 100 of Figure 8 of Nakamura "provides the lower gain range" and the DPGA 700 of Figure 8 of Nakamura "provides the higher

gain range.” Nakamura Col. 4, lines 1-6. Figure 9 of Nakamura further shows DPGA GAIN only overlapping PGA GAIN at a single point (i.e., the endpoint of the range associated with PGA GAIN). Thus, Nakamura at most discloses a DPGA GAIN that overlaps a single discrete point associated with PGA GAIN. However, the DPGA GAIN does not overlap a *range* of the PGA GAIN.

Claims 2, 5, and 6 are respectfully submitted to be allowable at least because they depend from amended Claim 1.

Amended independent Claim 10 is respectfully submitted to be allowable at least for reasons similar to those stated above with regard to Claim 1. Also, Claims 11 and 13 are respectfully submitted to be allowable at least because they depend from amended independent Claim 10.

Claims 7, 9, 15 and 18

Claim 7 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura in view of U.S. Patent No. 6,839,153 to Shimizu (“Shimizu”). This rejection is respectfully traversed. The applicants’ representative respectfully submits that Claim 7 is allowable for at least the reason that it depends from amended Claim 1.


Claims 9, 15 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nakamura in view of U.S. Patent No. 5,563,723 to Beaulieu et al. (“Beaulieu”). Each of these rejections is respectfully traversed. The applicants’ representative respectfully submits that Claims 9 and 15 are allowable for at least the reason that they respectively depend from one of amended Claims 1 and 10.

Amended Claim 18 is respectfully submitted to be at least because the proposed combination of Nakamura and Beaulieu fails to disclose, “a means for calibrating each of the Programmable Gain Amplifier and the Digital Programmable Gain Amplifier by employing one of a plurality of calibration algorithms prior to the scanning of each image,” as recited by Claim 18 (Emphasis added).

Claims 19 and 20 are respectfully submitted to be allowable at least because they depend on amended independent Claim 1.

It is respectfully submitted that each of the presently pending claims are in condition for allowance and notification to that effect is requested. The Examiner is encouraged to contact the applicants' representative at the below-listed telephone number if it is believed that the prosecution of this application may be assisted thereby. Although only certain arguments regarding patentability are set forth herein, there may be other arguments and reasons why the claimed invention is patentable. The applicants reserve the right to raise these arguments in the future.

Respectfully submitted,

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